

REMARKS

Reconsideration of this application is respectfully requested.

Claims 1-60 are pending in this application. The listing of claims amends claims 1, 4, 5, 7-10, 13-18, 22, 23, 25, 28, 33-37, 39, 41-43, 45, 48-51, 54, 55, and 57-60. The amendments add the word "automatically" to the claims to make clear that the recited actions are performed automatically. While the word automatic does not appear literally in the specification, that feature is at least inherently disclosed in the specification and no new matter enters by amendment.

The Claims Are Novel

Claims 1-13, 17-20, 22-23, 28-33, 37-38, and 43-47 have been rejected under 35 U.S.C. § 102(b), as allegedly being anticipated by Gerlyng *et al.*, *Cytometry*, vol. 13, 1992, pages 404-415 ("Gerlyng"). Office Action at pages 5-7. As reflected in the Examiner's discussion of the reference, Gerlyng describes the process of a person sitting at a microscope, looking at histological preparations of cells, and recording observations. The Examiner asserts that such a person interprets features of the cells and characterizes the cells accordingly. However, Gerlyng does not disclose the automatic methods recited in the claims, or the computer program products or computing devices that can be used in automatic methods as recited in the claims. Thus, Gerlyng does not disclose all elements of the amended claims and Gerlyng does not anticipate the claims. See M.P.E.P. 2131. Applicants request that this rejection be withdrawn.

The Claims Are Nonobvious

Claims 15, 16, 35, 36, 48-50, and 55 have been rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Gerlyng in view of Koss et al., *American J. of Clin. Path.*, Vol. 109, pp. 549-557 (1998) ("Koss"). Office Action at pages 7-9. The Examiner acknowledges that Gerlyng does not disclose using computer program products or computing devices, and acknowledges that Gerlyng merely teaches a manual method of looking at cells and scoring the cells based on features observed. However, the Examiner asserts that Koss remedies those deficiencies by disclosing a method of computerization.

Applicants respectfully traverse. In order to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the Examiner must establish three elements. First, the Examiner must point to a suggestion or motivation, either in the prior art or in the general body of knowledge, to modify or combine the prior art. Second, there must be a reasonable expectation of success in making the suggested modification. Third, the prior art as modified or combined must teach or suggest all limitations of the claimed invention. See M.P.E.P. 2142.

Koss states that the PAPNET System described therein uses neural net technology to analyze cell smears. The paper does not disclose how the neural net does this, but Figure 1 appears to suggest that it does so by identifying in some undisclosed way enlarged cells and cells with vacuolized cytoplasm. Koss also indicates that the neural net is used to select images for visual inspection by a user—not to automatically process the images. Koss at page 550. In contrast, Applicants claims involve automatic methods, and computer program products and computing

devices for use in such methods, where bi-nuclear cells are identified and scored. Koss does not disclose such methods.

Turning back to Gerlyng, that reference does not teach that the disclosed methods should be practiced with a computer, but instead teaches manual methods that require a person sitting at a microscope to make visual observations and subjective decisions based on those observations, apparently reflecting the authors' view that theirs is a manual method. The Examiner appears to impermissibly view both references through hindsight informed by Applicants' invention to find that any method can be done on a computer, so the skilled artisan would naturally apply Koss to practice the methods of Gerlyng on a computer. However, nothing in the references provides a motivation to make such a combination or provides a reasonable expectation of success in doing so, to arrive at the invention as claimed. Indeed, given the knowledge that computers can automate processes and the disclosure of Gerlyng, in 1992, the elapse of over 10 years before Applicants filed their application, and the lack of any intervening anticipating references, is strong evidence that the claimed invention is indeed non-obvious, for if it were merely obvious then it would have been made by others during that intervening time.

The amended claims are nonobvious over Gerlyng in view of Koss and this rejection should be withdrawn.

Claims 23-25 and 27 were rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Gerlyng in view of Rumbaugh, U.S. Patent No. 4,821,210 ("Rumbaugh"). Office Action at 10. The Examiner cites Rumbaugh for disclosing methods of fitting polygons to cellular structures. However, as stated above, Gerlyng

does not disclose the automatic methods claimed. Rumbaugh does not remedy that deficiency by merely disclosing the fitting of polygons to cellular structures. Thus, the amended claims are nonobvious over Gerlyng in view of Rumbaugh and this rejection should be withdrawn.

Claims 23 and 24 are rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Gerlyng in view of Miyano, U.S. Patent Pub. 2003-0108230 ("Miyano"). Office Action at 11. The Examiner cites Miyano for disclosing smoothing the structures of nuclei. However, as stated above, Gerlyng does not disclose the automatic method claimed. Miyano does not remedy that deficiency by merely disclosing smoothing the structures of nuclei. Thus, the amended claims are nonobvious over Gerlyng in view of Miyano and this rejection should be withdrawn.

Double Patenting and 35 U.S.C. § 102(f)

Claims 1-60 were provisionally rejected for statutory double patenting over Application No. 10/563,613. As none of the conflicting claims have been allowed, Applicants request that the Office hold this rejection in abeyance until allowance of conflicting claims. Applicants will take appropriate action at that time.

Claims 1-60 were rejected under 35 U.S.C. § 102(f) because the Examiner alleges that the '613 application shows that the inventors did not invent the claimed subject matter. The basis for this rejection is the Examiner's view that the inventive entities for the '613 application and this application are different. Applicants respectfully note that the Examiner is mistaken. The '613 application is the national stage of PCT/US2004/021673. That PCT application claims priority to the instant application,

and the inventors of that PCT application, the '613 application, and the instant application are the same. Applicants submit a copy of the cover page of WO 2005/008215, the International publication of that PCT application, for the Examiner's convenience.

The rejection under 35 U.S.C. § 102(f) should be withdrawn.

Conclusion


In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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